

Amendments to the Drawings:

The attached sheet of drawings includes changes to Figure 8. This sheet, which includes Figure 8, replaces the original sheet including Figure 8.

Attachment: Replacement Sheet

REMARKS

Claims 1-16, 21-23, and 28-44 will be pending upon entry of the present amendment. Claims 1, 2, 4-8, 10, 11, 16, 21, 28, and 31-33 are amended, claims 17-20 and 24-27 are cancelled, and new claims 37-44 are submitted herewith. Claims 6, 9, 10, 15, 16, 28-31, and 33-40 are withdrawn pending allowance of a generic claim. No new matter has been added to the application.

Figure 8 has been amended on the attached replacement sheet to correct a minor reference error in which number 102 incorrectly points to the bore 103.

Objections to the Drawings

The Drawings are objected to in the Office Action on the basis that number 116 is not shown in Figure 9. The specification has been amended to correct a typographical error in which the static seal 156 of Figure 9 was incorrectly referenced as 116.

Objections to the Specification

The Specification is objected to in the Office Action as lacking antecedent basis for the pressure chamber and first and second members recited in claim 1. Applicants respectfully disagree, and note that the Brief Summary of the Invention refers to these elements in the paragraph beginning at page 7, line 2, and that, as described, these limitations read, for example, on the cylinder 102, end cap 152, and valve body 154, respectively, of Figure 5. On the other hand, Applicants note that the term *pressure chamber* is used in some of the prior art in a manner that is not consistent with its use in the present application. Accordingly, to reduce the likelihood of confusion, where *pressure chamber* is used in the summary or claims of the specification, the term has been amended to read *pressure body*. Additionally, the paragraph beginning at page 9, line 15 has been amended to use *pressure body* with reference to the cylinder 102 to provide specific antecedent basis for the claims as the term can be read according to one embodiment, and the paragraph beginning at page 13, line 13 has been amended to correct an inadvertent use of *pressure chamber* with reference to a load chamber. The amendments to

claims 1, 2, 4-7, and 10 in which *chamber* has been amended to read *body* are not made to overcome prior art, nor do they alter the scope of the respective claims.

The specification has also been amended to provide antecedent support for the term *operating pressure* as used in the claims, in the paragraphs beginning at pages 10, line 3; 11, line 18; 12, line 1; and 14, line 3. As used in the specification and claims, *operating pressure* refers to the level of pressure applied to the load chamber of a pump to maintain the static seal during pump operation.

Rejections Under 35 U.S.C. § 112, Second Paragraph

Claims 1-5, 7, 8, 17, and 19-23 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter which the applicants regards as the invention. Applicants believe that the preceding discussion is sufficient to resolve the rejections of claims 1-5, 7, 8. Claims 17-20 are cancelled, so the matter is moot with respect to these claims, and claim 21 has been amended to recite sufficient structure to place claims 21-23 in condition for allowance under section 112, second paragraph.

Summary of Rejections Under 35 U.S.C. §§ 102 and 103

Claims 1-3, 7, 8, 11-14, 17, 19, 20, 24, and 27 are rejected under 35 U.S.C. §102(b) as being anticipated by Bauer (U.S. Patent 3,207,081); Claims 1-5, 11-13, 17, 19, 24, 27, and 32 are rejected under 35 U.S.C. §102(b) as being anticipated by Vereschagin et al. (U.S. Patent 3,446,427, hereafter *Vereschagin '427*); claims 21 and 23 are rejected under 35 U.S.C. §103(a) as being unpatentable over Vereschagin in view of Jezek (U.S. Patent Application 2005/0249615); and claim 22 is rejected under 35 U.S.C. §103(a) as being unpatentable over Vereschagin in view of Jezek and further in view of Vereschagin et al. (U.S. Patent 3,778,196, hereafter *Vereschagin '196*).

In the discussion that follows, when a specific passage of a U.S. patent is cited, it will be identified by a column number separated from a line number by a colon, e.g., 4:22, indicating column 4, line 22.

Response to Rejections Under 35 U.S.C. § 102

As currently presented, claim 1 recites, in part, “a load chamber ... configured to remain pressurized independent of operation of the enclosure.” Neither Bauer nor Vereschagin ‘427 anticipate this limitation. Bauer teaches that maintaining pressure in its chamber 11 when its pump is shut down is undesirable (see *Bauer*, 2:61-66), and therefore provides, in each of its embodiments, a means for bleeding off the pressure in the chamber 11 “[resulting] in that upon stopping of the machine, the pressure inside the chamber disappears slowly, so that, a few minutes after the end of operation of the machine, the closing plug 9 can be released without any exaggerated force being required.” *Id.*, 3:10-14, *see, also*, 2:71-3:1, 3:31-40, and 4:18-23. While Bauer’s chamber 11, by virtue of its check valve 13, is configured to remain pressurized *during* operation — rather than, for example, fluctuating with each stroke of its piston (*see* 2:25, *et seq.*) — it is not configured to remain pressurized *independent* of operation. Thus, Bauer fails to anticipate the quoted limitation of claim 1, but instead teaches away from such a limitation.

For its part, Vereschagin ‘427 is silent with respect to its “seat” 6, cited in the Office Action as corresponding to the load chamber of claim 1, beyond stating that “[t]he tightness of the seal is ensured by charging oil into the seat 6 via a conduit 13” *Vereschagin* ‘427, 2:42-43.

Clearly, Neither Bauer nor Vereschagin ‘427 anticipate each and every element as set forth in claim 1, which is therefore allowable over these references.

With regard to Vereschagin ‘196, the check valve 22 was cited in rejecting claim 22, and might also be considered by the Examiner to teach or suggest the quoted limitation of claim 1. However, a careful review of the reference shows that this is not the case. While this reference does provide slightly more detail than Vereschagin ‘427, it is still very sparse with regard to its operation, stating only that:

The delivery of pressure ... is effected by two pressure generators, namely, a pump 21 through non-return valve 22 and a melting pump 23 having a double diameter piston 24. The smaller and larger ends of the piston 24 are acted upon, respectively, by the compressor delivery pressures and by the sealing pressure supplied to the piston 6.

Vereschagin ‘196, 2:67-3:6.

In spite of the lack of additional description, one of ordinary skill will recognize the inherent operation of the relevant elements of this reference, at least with respect to the pictured embodiment. First, it will be recognized that, if the pressure produced by the pump 21 were higher than the pressure produced at the large end of piston 24, it would drive the piston 24 to the bottom extreme of its cylinder, where it would remain during operation. Thus, if the melting pump 23 is to have any function, it must be configured to produce a higher pressure than that of the pump 21.

Second, if operation of the main compressor were activated prior to the pump 21, with the chamber above the piston 6 yet un-filled, the piston 24 would be driven to the extreme top of its cylinder, where it would remain, against the lower pressure of the pump 21, and would again be non-functional. Thus, in normal operation, the pump 21 is activated before activation of the main compressor. This will initially drive the piston 24 to the bottom of its cylinder and prefill the fluid circuit at a pressure below normal operating pressure. When the main compressor is activated, the higher pressure at the large end of the piston 24 will drive the piston upward against the lower pressure of pump 21, but the non-return valve 22 will prevent the piston 24 from driving fluid back into the pump 21. Accordingly, the piston 24 will move upward only so far as is necessary to fully seat the seals of the compressor and bring the pressure of the piston 6 up to its operating pressure. Because the pump 21 will have prefilled the chamber, pressurizing the circuit will require less than a full stroke of the piston 24. From this point onward, the pump 21 will not be able to move fluid past the non-return valve against the higher pressure of the melting pump 23, so the pressure in the circuit will be controlled by the melting pump 23.

Third, when operation of the main compressor is shut down, and fluid pressure at its output drops, the piston 24 will drop back to the bottom of its cylinder, and the pressure in the circuit will also drop back from its normal operating pressure at least down to the pressure produced by the pump 21, and perhaps to zero, if the pump 21 is not in operation. It can thus be seen that Vereschagin '196 also fails to teach or suggest a load chamber configured to *remain pressurized* independent of operation of the enclosure, as recited in claim 1.

While the operation described above with reference to Vereschagin '196 is inherent, given the details available, there are additional aspects that, although not inherent, are

likely. First, because the pump 21 will be wholly unnecessary and ineffective once the main compressor is activated, it will likely be shut down once the system is in operation.

Second, the pressure produced by the pump 21 need only be sufficient to fill the circuit with fluid. From the point of view of Vereschagin '196, and as taught by Bauer, this would provide the advantage that, once the system is shut down, the pressure applied by the piston 6 would drop to a point where disassembly of the compressor would be possible without taking further steps to depressurize the circuit. Vereschagin '196 inherently depressurizes at least partially while not in operation, both Vereschagin references are entirely silent with regard to advantages that might derive from a system that remains fully pressurized while not in operation, and Bauer teaches away from such an arrangement. Accordingly, claim 1 is allowable over these references, individually or in combination.

While their respective scopes differ, each of independent claims 11, 21, and 32, as currently presented, includes limitations that render them allowable for reasons similar to those outlined above with reference to claim 1. The Jeezek reference, cited in combination with Vereschagin '427 in rejecting claim 21, is silent with respect to a load chamber or any associated elements, and is therefore not able to remedy the deficiency of Vereschagin '427 in supporting a rejection under section 103.

New claims 37-44 are fully supported by the specification and do not constitute new matter. Claims 37-40 are directed to previously unclaimed aspects of non-elected embodiments, and are therefore withdrawn pending allowance of a generic claim. Claim 41 is drawn to a check valve, which is generic to all the disclosed embodiments, and claims 42-44 are drawn specifically to the elected embodiment of Figure 5.

None of the references currently of record teach or suggest all the limitations of new independent claim 42, either individually or in combination. Claim 42 is therefore allowable.

Conclusion

Overall, the cited references do not singly, or in any motivated combination, teach or suggest the claimed features of the embodiments recited in independent claims 1, 11, 21, 32, or 42, and thus such claims are allowable. Applicants' decision not to argue the allowability of

each of the dependent claims is not to be construed as an admission that such claims would not be allowable but for their dependence on allowable base claims, and Applicants reserve the right to present such arguments as may become necessary in the future. If the undersigned representative has overlooked a relevant teaching in any of the references, the Examiner is requested to point out specifically where such teaching may be found.

Applicants regard claim 1 to be generic to the withdrawn claims that remain in the case. Accordingly, in the event the Examiner finds the elected claims to be in condition for allowance, Applicants respectfully request rejoinder of the withdrawn claims.

In light of the above amendments and remarks, Applicants respectfully submit that all pending claims are allowable, and therefore request that the Examiner reconsider this application and timely allow all pending claims. Examiner Cozco is encouraged to contact Mr. Bennett by telephone at (206) 694-4848 to discuss the above and any other distinctions between the claims and the applied references, if desired, or if the Examiner notes any informalities in the claims that can be resolved by telephone and Examiner's amendment.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,
SEED Intellectual Property Law Group PLLC



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HHB:cm

Enclosure:

1 Replacement Drawing Sheet (Figure 8)

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